

LPM-604

**Identification, Handling and Health care  
management of Laboratory animals**

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## Identification of laboratory animals:

- 1. Staining:** - Painting the animal with dyes like crystal violet, carbol fuschin etc. can be conveniently used for marking. Staining on skin coat on small area will easily visual.
- 2. Tagging/Branding:** - Rabbits and Guinea pigs can be ear tagged. Aluminium tags with embedded numbers are normally used.
- 3. Tattooing:** - usually carried on ears, foot, shoulders or hip for identification.
- 4. Notching:** - Cutting ears in specific shape at particular place in the form of notch is also used as identification marks in rats and mice.

# Handling of laboratory animals

Laboratory animals are mostly smaller in size and more delicate, so handling is very important. Gentle handling is the best way to obtain real and correct experimental results.

## Purpose of handling:

1. Housing
2. Weighing
3. Inoculation & sample collection
4. Inspection to note body changes
5. Marketing and transport.

## Methods of handling:

**Mouse:** - Mouse should be quickly and firmly picked by grasping base of tail to lift slightly upward. For examination, grasp the scruff at the base of neck with thumb and index finger by one hand (mostly left hand). Support tail of animal with 4<sup>th</sup> or 5<sup>th</sup> finger.

**Rat:** - Rats should not be hold for longer time with tail grip because they get irritated and try to bite. After grasping by one hand, immediately grip rat with other hand by placing 2<sup>nd</sup> and 3<sup>rd</sup> finger on either side of mandible through the neck, whereas 4<sup>th</sup> & 5<sup>th</sup> finger should be placed on chest.

**Hamster:** - The hamster must be picked up confidently and gently because improper handling tends to bite. It should be grasped with large pinch on the scruff with palm and other fingers to hold.

**Guinea Pig:** - Guinea pigs can be lifted by placing thumb and other fingers over either sides of neck by one hand and then support body with other hand under the caudal end of animal.

# Disease and health care

Like other animals Laboratory animals are susceptible to many viral, bacterial, mycotic, parasitic and external pest infection. The disease may emerge and appear in the form of morbidity, mortality or outbreaks.

## Diseases of Mice:

### Bacterial: -

- **Salmonellosis:** causative agent are *S. Typhimurium* and *S. Enteritidis*.
- **Pasteurellosis:** Causative agent are *P. Pneumotropica*, *P. Muricida* and *P. Pestis*.
- **Mouse Septicaemia:** Causative agent is *Erysephalothrix muriceptica*.
- **Tyzzler's disease:** caused by *Bacillus pilliformis*.

## Viral disease: -

- Pox
- Lymphocytic choriomeningitis
- Tumours

## Mycotic infections: -

- *Mycoplasma pulmonis*, *Arthritidis* and *Murolyticum* causes chronic pneumonia, abscesses in joints and meningitis.

## Diseases of Rats: -

**Bacterial:** Salmonellosis, Leptospirosis, Pasteurellosis are the bacterial infections.

**Viral:** Encephalomyocarditis and Lacrimal duct infection.

## Parasitic infections:

- Sarcosporidiosis
- Entamoeba and Eimeria spp.
- Toxoplasma gondii

External parasites: Lice and Mange.

## Diseases of Hamster:

Hamster are mostly free from spontaneous diseases but **Salmonellosis** and **Mange** are common. Viruses like **Adenovirus** produces cancer and **Coxsackie-B virus** leads to diarrhoea.

**Canabolism:** This is a managemental disorder resulting into destroying of young ones by mother due to human smell after handling. The following care should be taken: -



- Rub the hands with bedding materials to remove human smell.
- First separate mother from young ones from cage.
- First put young ones in cage by rubbing them with bedding materials or cloth.

### Diseases of Guinea Pigs: -

Guinea pigs are also relatively disease free animals but **Salmonellosis**, **Streptococcal pneumonia** and **Pasteurellosis** are common bacterial diseases.

- Drinking water provided to lab. Animals should be purified, filtered & treated. Instead of using usual sanitizer, water is treated with Hcl at the dose level of 1ml/litre.
- The bedding materials used should be properly sterilized and be changed once or twice a week.
- Equipments like cages, feeders and waterers should also be sterilized.
- The feed/food supplied to lab animals should be balanced and sterilized.
- The house must be cleaned daily with disinfectants like phenyl, lysol etc.
- Entry of insects, mosquitoes, flies etc. must be prevented in lab. Animal houses.

- Isolation of diseased animals and appropriate timely treatment with special care for cleaning & disinfection of houses should be done.
- Quarantine for new entries with 2 or 3 weeks observation period to check biological transmission of diseases should be done.